

Amendments to the Claims

Please cancel Claims 116-121. Please amend Claims 16, 21, 23-26, 34-37, 39, 41, 43, 46, 47, 53, 60, 84, 97-102, 109 and 113-115. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1-15. (Canceled)

16. (Withdrawn-currently amended) A method of detecting a mammalian Bonzo or portion thereof in a biological sample, comprising:

- a) contacting a biological sample with an antibody or antigen-binding fragment thereof which binds mammalian Bonzo and inhibits the binding of a mammalian ligand thereto, under conditions appropriate for binding of said antibody or antigen-binding fragment to mammalian Bonzo or a portion thereof; and
- b) detecting binding of said antibody or antigen-binding fragment to said Bonzo or portion thereof;

wherein said ligand is selected from the group consisting of:

- i) a ligand having the amino acid sequence of SEQ ID NO:4;
- ii) a ligand having an amino acid sequence that is a fragment of SEQ ID NO:4, wherein said fragment is selected from the group consisting of amino acid residues 30-254 of SEQ ID NO:4, amino acid residues 1-202 of SEQ ID NO:4, amino acid residues 30-202 of SEQ ID NO:4, amino acid residues 1-155 of SEQ ID NO:4, amino acid residues 30-155 of SEQ ID NO:4, amino acid residues 1-117 of SEQ ID NO:4, amino acid residues 30-117 of SEQ ID NO:4 and amino acid residues 30 to 95 of SEQ ID NO:4;
- iii) a ligand having the amino acid sequence of SEQ ID NO:6;
- iv) a ligand having the amino acid sequence of SEQ ID NO:8; and

v) a ligand having the amino acid sequence of amino acid residues 32-101 of SEQ ID NO:8, and

wherein the binding of said antibody or antigen-binding fragment to said Bonzo or portion thereof indicates the presence of said Bonzo or portion thereof.

17-20. (Canceled)

21. (Currently amended) An antibody or antigen-binding fragment thereof which binds mammalian Bonzo and inhibits the binding of a ~~mammalian~~ ligand to said Bonzo, wherein said ligand is selected from the group consisting of:

- i) a ligand having the amino acid sequence of SEQ ID NO:4;
- ii) a ligand having an amino acid sequence that is a fragment of SEQ ID NO:4, wherein said fragment is selected from the group consisting of amino acid residues 30-254 of SEQ ID NO:4, amino acid residues 1-202 of SEQ ID NO:4, amino acid residues 30-202 of SEQ ID NO:4, amino acid residues 1-155 of SEQ ID NO:4, amino acid residues 30-155 of SEQ ID NO:4, amino acid residues 1-117 of SEQ ID NO:4, amino acid residues 30-117 of SEQ ID NO:4 and amino acid residues 30 to 95 of SEQ ID NO:4;
- iii) a ligand having the amino acid sequence of SEQ ID NO:6;
- iv) a ligand having the amino acid sequence of SEQ ID NO:8; and
- v) a ligand having the amino acid sequence of amino acid residues 32-101 of SEQ ID NO:8.

22. (Original) The antibody or antigen-binding fragment of Claim 21 wherein said mammalian Bonzo is human Bonzo.

23. (Currently amended) The antibody or antigen-binding fragment of Claim 21 wherein said ligand is ~~SE~~~~Ex~~~~Ekine~~ selected from the group consisting of:

- i) a ligand having the amino acid sequence of SEQ ID NO:4;

- ii) a ligand having an amino acid sequence that is a fragment of SEQ ID NO:4, wherein said fragment is selected from the group consisting of amino acid residues 30-254 of SEQ ID NO:4, amino acid residues 1-202 of SEQ ID NO:4, amino acid residues 30-202 of SEQ ID NO:4, amino acid residues 1-155 of SEQ ID NO:4, amino acid residues 30-155 of SEQ ID NO:4, amino acid residues 1-117 of SEQ ID NO:4, amino acid residues 30-117 of SEQ ID NO:4 and amino acid residues 30 to 95 of SEQ ID NO:4; and
 - iii) a ligand having the amino acid sequence of SEQ ID NO:6.

24. (Currently amended) The antibody or antigen-binding fragment of Claim 21 wherein said antibody or antigen-binding fragment inhibits signal transduction and/or a cellular response induced upon binding of a ligand consisting of amino acid residues 30-254 of SEQ ID NO:4 to said Bonzo in an *in vitro* chemotaxis assay with an IC_{50} of less than about 7 μ g/mL.

25. (Currently amended) The antibody or antigen-binding fragment of Claim 21 24 wherein said antibody or antigen-binding fragment inhibits a cellular response selected from the group consisting of proliferation, migration, chemotaxis, secretion, exocytosis, degranulation, inflammatory mediator release and respiratory burst.

26. (Currently amended) The antibody or antigen-binding fragment of Claim 21 24 wherein said antibody or antigen-binding fragment inhibits a cellular response, and said cellular response is chemotaxis.

27. (Previously presented) The antibody or antigen-binding fragment of Claim 21 wherein the binding of said antibody or said antigen-binding fragment to Bonzo can be inhibited by an antibody selected from the group consisting of: mAb 4A11, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-991; mAb 7A2, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number

PTA-992; and mAb 7F3, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-990.

28. (Previously presented) An antibody produced by murine hybridoma 4A11, deposited as ATCC Accession Number PTA-991, or an antigen-binding fragment thereof.
29. (Previously presented) An antibody produced by murine hybridoma 7A2, deposited as ATCC Accession Number PTA-992, or an antigen-binding fragment thereof.
30. (Previously presented) An antibody produced by murine hybridoma 7F3, deposited as ATCC Accession Number PTA-990, or an antigen-binding fragment thereof.
31. (Previously presented) Murine hybridoma 4A11, deposited as ATCC Accession Number PTA-991.
32. (Previously presented) Murine hybridoma 7A2, deposited as ATCC Accession Number PTA-992.
33. (Previously presented) Murine hybridoma 7F3, deposited as ATCC Accession Number PTA-990.
34. (Currently amended) An isolated cell which produces an antibody or antigen-binding fragment thereof that binds to mammalian Bonzo and inhibits the binding of a mammalian ligand to said Bonzo, wherein said ligand is selected from the group consisting of:
 - i) a ligand having the amino acid sequence of SEQ ID NO:4;
 - ii) a ligand having an amino acid sequence that is a fragment of SEQ ID NO:4, wherein said fragment is selected from the group consisting of amino acid residues 30-254 of SEQ ID NO:4, amino acid residues 1-202 of SEQ ID NO:4, amino acid residues 30-202 of SEQ ID NO:4, amino

acid residues 1-155 of SEQ ID NO:4, amino acid residues 30-155 of SEQ ID NO:4, amino acid residues 1-117 of SEQ ID NO:4, amino acid residues 30-117 of SEQ ID NO:4 and amino acid residues 30 to 95 of SEQ ID NO:4;

- iii) a ligand having the amino acid sequence of SEQ ID NO:6;
- iv) a ligand having the amino acid sequence of SEQ ID NO:8; and
- v) a ligand having the amino acid sequence of amino acid residues 32-101 of SEQ ID NO:8.

35. (Currently amended) The isolated cell of Claim 34 wherein said antibody or antigen-binding fragment inhibits signal transduction and/or a cellular response induced upon binding of a ligand consisting of amino acid residues 30-254 of SEQ ID NO:4 to said Bonzo in an *in vitro* chemotaxis assay with an IC₅₀ of less than about 7 µg/mL.

36. (Currently amended) The isolated cell of Claim 34 35 wherein said antibody or antigen-binding fragment inhibits a cellular response selected from the group consisting of proliferation, migration, chemotaxis, secretion, exocytosis, degranulation, inflammatory mediator release and respiratory burst.

37. (Currently amended) The isolated cell of Claim 34 35 wherein said antibody or antigen-binding fragment inhibits a cellular response, and said cellular response is chemotaxis.

38. (Original) The isolated cell of Claim 34 wherein said mammalian Bonzo is human Bonzo.

39. (Currently amended) The isolated cell of Claim 34 wherein said ligand is SExCKine selected from the group consisting of:

- i) a ligand having the amino acid sequence of SEQ ID NO:4;
- ii) a ligand having an amino acid sequence that is a fragment of SEQ ID NO:4, wherein said fragment is selected from the group consisting of

amino acid residues 30-254 of SEQ ID NO:4, amino acid residues 1-202 of SEQ ID NO:4, amino acid residues 30-202 of SEQ ID NO:4, amino acid residues 1-155 of SEQ ID NO:4, amino acid residues 30-155 of SEQ ID NO:4, amino acid residues 1-117 of SEQ ID NO:4, amino acid residues 30-117 of SEQ ID NO:4 and amino acid residues 30 to 95 of SEQ ID NO:4; and

iii) a ligand having the amino acid sequence of SEQ ID NO:6.

40. (Original) The isolated cell of Claim 34 wherein said isolated cell is selected from the group consisting of an immortalized B cell, a hybridoma and a recombinant cell comprising one or more exogenous nucleic acid molecules that encode said antibody or antigen-binding fragment thereof.

41. (Currently amended) An antibody or antigen-binding fragment thereof which binds mammalian Bonzo expressed on the membrane of a cell and inhibits a cellular response to binding of a mammalian ligand to said Bonzo, wherein said ligand is selected from the group consisting of:

- i) a ligand having the amino acid sequence of SEQ ID NO:4;
- ii) a ligand having an amino acid sequence that is a fragment of SEQ ID NO:4, wherein said fragment is selected from the group consisting of amino acid residues 30-254 of SEQ ID NO:4, amino acid residues 1-202 of SEQ ID NO:4, amino acid residues 30-202 of SEQ ID NO:4, amino acid residues 1-155 of SEQ ID NO:4, amino acid residues 30-155 of SEQ ID NO:4, amino acid residues 1-117 of SEQ ID NO:4, amino acid residues 30-117 of SEQ ID NO:4 and amino acid residues 30 to 95 of SEQ ID NO:4;
- iii) a ligand having the amino acid sequence of SEQ ID NO:6;
- iv) a ligand having the amino acid sequence of SEQ ID NO:8; and
- v) a ligand having the amino acid sequence of amino acid residues 32-101 of SEQ ID NO:8.

42. (Original) The antibody or antigen-binding fragment of Claim 41 wherein said cellular response is selected from the group consisting of Ca^{2+} flux, chemotaxis, exocytosis and respiratory burst.
43. (Currently amended) The antibody or antigen-binding fragment of Claim 41 ~~42~~ wherein said antibody or antigen-binding fragment thereof inhibits signal transduction and/or a cellular response induced upon binding of a ligand consisting of amino acid residues 30-254 of SEQ ID NO:4 to said Bonzo in an *in vitro* chemotaxis assay with an IC_{50} of less than about 7 $\mu\text{g}/\text{mL}$.
44. (Previously presented) The antibody or antigen-binding fragment of Claim 42 wherein said cellular response is chemotaxis.
45. (Previously presented) The antibody or antigen-binding fragment of Claim 41 wherein said mammalian Bonzo is human Bonzo.
46. (Currently amended) The antibody or antigen-binding fragment of Claim 41 wherein said ligand is ~~SEX kinase~~ selected from the group consisting of:
 - i) a ligand having the amino acid sequence of SEQ ID NO:4;
 - ii) a ligand having an amino acid sequence that is a fragment of SEQ ID NO:4, wherein said fragment is selected from the group consisting of amino acid residues 30-254 of SEQ ID NO:4, amino acid residues 1-202 of SEQ ID NO:4, amino acid residues 30-202 of SEQ ID NO:4, amino acid residues 1-155 of SEQ ID NO:4, amino acid residues 30-155 of SEQ ID NO:4, amino acid residues 1-117 of SEQ ID NO:4, amino acid residues 30-117 of SEQ ID NO:4 and amino acid residues 30 to 95 of SEQ ID NO:4; and
 - iii) a ligand having the amino acid sequence of SEQ ID NO:6.

47. (Withdrawn-currently amended) A method of treating a subject having an inflammatory disease, comprising administering to said subject an effective amount of an antibody or antigen-binding fragment thereof which binds mammalian Bonzo and inhibits the binding of a mammalian ligand thereto, wherein said ligand is selected from the group consisting of:

- i) a ligand having the amino acid sequence of SEQ ID NO:4;
- ii) a ligand having an amino acid sequence that is a fragment of SEQ ID NO:4, wherein said fragment is selected from the group consisting of amino acid residues 30-254 of SEQ ID NO:4, amino acid residues 1-202 of SEQ ID NO:4, amino acid residues 30-202 of SEQ ID NO:4, amino acid residues 1-155 of SEQ ID NO:4, amino acid residues 30-155 of SEQ ID NO:4, amino acid residues 1-117 of SEQ ID NO:4, amino acid residues 30-117 of SEQ ID NO:4 and amino acid residues 30 to 95 of SEQ ID NO:4;
- iii) a ligand having the amino acid sequence of SEQ ID NO:6;
- iv) a ligand having the amino acid sequence of SEQ ID NO:8; and
- v) a ligand having the amino acid sequence of amino acid residues 32-101 of SEQ ID NO:8.

48-52. (Canceled)

53. (Withdrawn-currently amended) A method of inhibiting a cellular response to binding of ligand to Bonzo expressed on the surface of a leukocyte in a mammal, comprising administering to said mammal an effective amount of an antibody or antigen-binding fragment thereof which binds mammalian Bonzo and inhibits the binding of a mammalian ligand thereto, wherein said ligand is selected from the group consisting of:

- i) a ligand having the amino acid sequence of SEQ ID NO:4;
- ii) a ligand having an amino acid sequence that is a fragment of SEQ ID NO:4, wherein said fragment is selected from the group consisting of amino acid residues 30-254 of SEQ ID NO:4, amino acid residues 1-202

of SEQ ID NO:4, amino acid residues 30-202 of SEQ ID NO:4, amino acid residues 1-155 of SEQ ID NO:4, amino acid residues 30-155 of SEQ ID NO:4, amino acid residues 1-117 of SEQ ID NO:4, amino acid residues 30-117 of SEQ ID NO:4 and amino acid residues 30 to 95 of SEQ ID NO:4;

- iii) a ligand having the amino acid sequence of SEQ ID NO:6;
- iv) a ligand having the amino acid sequence of SEQ ID NO:8; and
- v) a ligand having the amino acid sequence of amino acid residues 32-101 of SEQ ID NO:8.

54-59. (Canceled)

60. (Withdrawn-currently amended) A method of modulating a Bonzo function comprising contacting a cell that expresses Bonzo with an antibody or antigen-binding fragment thereof which binds mammalian Bonzo and inhibits the binding of a ~~mammalian~~ ligand thereto, thereby modulating the function of said Bonzo, wherein said ligand is selected from the group consisting of:

- i) a ligand having the amino acid sequence of SEQ ID NO:4;
- ii) a ligand having an amino acid sequence that is a fragment of SEQ ID NO:4, wherein said fragment is selected from the group consisting of amino acid residues 30-254 of SEQ ID NO:4, amino acid residues 1-202 of SEQ ID NO:4, amino acid residues 30-202 of SEQ ID NO:4, amino acid residues 1-155 of SEQ ID NO:4, amino acid residues 30-155 of SEQ ID NO:4, amino acid residues 1-117 of SEQ ID NO:4, amino acid residues 30-117 of SEQ ID NO:4 and amino acid residues 30 to 95 of SEQ ID NO:4;
- iii) a ligand having the amino acid sequence of SEQ ID NO:6;
- iv) a ligand having the amino acid sequence of SEQ ID NO:8; and
- v) a ligand having the amino acid sequence of amino acid residues 32-101 of SEQ ID NO:8.

61-83. (Canceled)

84. (Currently amended) A test kit for use in detecting the presence of mammalian Bonzo or a portion thereof in a biological sample comprising

- a) an antibody or antigen-binding fragment thereof which binds to mammalian Bonzo and inhibits binding of a ~~mammalian~~ ligand to said mammalian Bonzo, wherein said ligand is selected from the group consisting of:
 - i) a ligand having the amino acid sequence of SEQ ID NO:4;
 - ii) a ligand having an amino acid sequence that is a fragment of SEQ ID NO:4, wherein said fragment is selected from the group consisting of amino acid residues 30-254 of SEQ ID NO:4, amino acid residues 1-202 of SEQ ID NO:4, amino acid residues 30-202 of SEQ ID NO:4, amino acid residues 1-155 of SEQ ID NO:4, amino acid residues 30-155 of SEQ ID NO:4, amino acid residues 1-117 of SEQ ID NO:4, amino acid residues 30-117 of SEQ ID NO:4 and amino acid residues 30 to 95 of SEQ ID NO:4;
 - iii) a ligand having the amino acid sequence of SEQ ID NO:6;
 - iv) a ligand having the amino acid sequence of SEQ ID NO:8; and
 - v) a ligand having the amino acid sequence of amino acid residues 32-101 of SEQ ID NO:8; and
- b) one or more ancillary reagents suitable for detecting the presence of a complex between said antibody or antigen-binding fragment and said mammalian Bonzo.

85-87. (Canceled)

88. (Previously presented) The test kit of Claim 84 wherein said antibody or antigen-binding fragment is selected from the group consisting of

- a) mAb 4A11, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-991;

- b) mAb 7A2, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-992;
- c) mAb 7F3, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-990;
- d) an antibody which can compete with mAb 4A11, mAb 7A2 or mAb 7F3 for binding to mammalian Bonzo; and
- e) an antigen-binding fragment of a), b), c) or d).

89-96. (Cancelled)

- 97. (Currently amended) The antibody or antigen-binding fragment of Claim 21 wherein said antibody or antigen-binding fragment inhibits signal transduction and/or a cellular response [[to]] induced upon binding of a ligand consisting of amino acid residues 30-254 of SEQ ID NO:4 to said Bonzo in an *in vitro* chemotaxis assay with an IC₅₀ of less than about 5 µg/mL.
- 98. (Currently amended) The antibody or antigen-binding fragment of Claim 21 wherein said antibody or antigen-binding fragment inhibits signal transduction and/or a cellular response [[to]] induced upon binding of a ligand consisting of amino acid residues 30-254 of SEQ ID NO:4 to said Bonzo in an *in vitro* chemotaxis assay with an IC₅₀ of less than about 1 µg/mL.
- 99. (Currently amended) The isolated cell of Claim 34 which produces an antibody or antigen-binding fragment thereof, wherein said antibody or antigen-binding fragment inhibits signal transduction and/or a cellular response [[to]] induced upon binding of a ligand consisting of amino acid residues 30-254 of SEQ ID NO:4 to said Bonzo in an *in vitro* chemotaxis assay with an IC₅₀ of less than about 5 µg/mL.

100. (Currently amended) The isolated cell of Claim 34 which produces an antibody or antigen-binding fragment thereof, wherein said antibody or antigen-binding fragment inhibits signal transduction and/or a cellular response [[to]] induced upon binding of a ligand consisting of amino acid residues 30-254 of SEQ ID NO:4 to said Bonzo in an *in vitro chemotaxis* assay with an IC₅₀ of less than about 1 µg/mL.
101. (Currently amended) The antibody or antigen-binding fragment of Claim 41 wherein said antibody or antigen-binding fragment inhibits signal transduction and/or a cellular response [[to]] induced upon binding of a ligand consisting of amino acid residues 30-254 of SEQ ID NO:4 to said Bonzo in an *in vitro chemotaxis* assay with an IC₅₀ of less than about 5 µg/mL.
102. (Currently amended) The antibody or antigen-binding fragment of Claim 41 wherein said antibody or antigen-binding fragment inhibits signal transduction and/or a cellular response [[to]] induced upon binding of a ligand consisting of amino acid residues 30-254 of SEQ ID NO:4 to said Bonzo in an *in vitro chemotaxis* assay with an IC₅₀ of less than about 1 µg/mL.
103. (Previously presented) The antibody or antigen-binding fragment of Claim 21 wherein said antibody or antigen-binding fragment has the epitopic specificity of an antibody selected from the group consisting of: mAb 4A11, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-991; mAb 7A2, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-992; and mAb 7F3, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-990.
104. (Previously presented) The antibody or antigen-binding fragment of Claim 103 wherein said antibody or antigen-binding fragment has the epitopic specificity of mAb 7F3, the

antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-990.

105. (Previously presented) The isolated cell of Claim 34 which produces an antibody or antigen-binding fragment thereof, wherein said antibody or antigen-binding fragment has the epitopic specificity of an antibody selected from the group consisting of mAb 4A11, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-991; mAb 7A2, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-992; and mAb 7F3, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-990.
106. (Previously presented) The isolated cell of Claim 105 which produces an antibody or antigen-binding fragment thereof, wherein said antibody or antigen-binding fragment has the epitopic specificity of mAb 7F3, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-990.
107. (Previously presented) The antibody or antigen-binding fragment of Claim 41 wherein said antibody or antigen-binding fragment has the epitopic specificity of an antibody selected from the group consisting of mAb 4A11, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-991; mAb 7A2, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-992; and mAb 7F3, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-990.
108. (Previously presented) The antibody or antigen-binding fragment of Claim 107 wherein said antibody or antigen-binding fragment has the epitopic specificity of mAb 7F3, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-990.

109. (Currently amended) The antibody or antigen-binding fragment of Claim 41 ~~43~~ wherein said cellular response is chemotaxis.
110. (Canceled)
111. (Previously presented) The isolated cell of Claim 34 which produces an antibody or antigen-binding fragment thereof, wherein the binding of said antibody or said antigen-binding fragment to mammalian Bonzo can be inhibited by an antibody selected from the group consisting of mAb 4A11, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-991; mAb 7A2, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-992; and mAb 7F3, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-990.
112. (Previously presented) The antibody or antigen-binding fragment of Claim 41 wherein the binding of said antibody or said antigen-binding fragment to mammalian Bonzo can be inhibited by an antibody selected from the group consisting of mAb 4A11, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-991; mAb 7A2, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-992; and mAb 7F3, the antibody produced by the hybridoma cell line deposited as ATCC Accession Number PTA-990.
113. (Currently amended) The antibody or antigen-binding fragment of Claim 21 ~~24~~ wherein said antibody or antigen-binding fragment inhibits transient increase in the concentration of cytosolic free calcium ($[Ca^{2+}]_i$) induced upon binding of ligand to said Bonzo.
114. (Currently amended) The antibody or antigen-binding fragment of Claim 34 ~~35~~ wherein said antibody or antigen-binding fragment inhibits transient increase in the concentration of cytosolic free calcium ($[Ca^{2+}]_i$) induced upon binding of ligand to said Bonzo.

115. (Withdrawn-currently amended) A method of inhibiting a Bonzo function comprising contacting a cell that expresses Bonzo with an antibody or antigen-binding fragment thereof which binds mammalian Bonzo and inhibits the binding of a ~~mammalian~~ ligand thereto, thereby inhibiting the function of said Bonzo, wherein said ligand is selected from the group consisting of:

- i) a ligand having the amino acid sequence of SEQ ID NO:4;
- ii) a ligand having an amino acid sequence that is a fragment of SEQ ID NO:4, wherein said fragment is selected from the group consisting of amino acid residues 30-254 of SEQ ID NO:4, amino acid residues 1-202 of SEQ ID NO:4, amino acid residues 30-202 of SEQ ID NO:4, amino acid residues 1-155 of SEQ ID NO:4, amino acid residues 30-155 of SEQ ID NO:4, amino acid residues 1-117 of SEQ ID NO:4, amino acid residues 30-117 of SEQ ID NO:4 and amino acid residues 30 to 95 of SEQ ID NO:4;
- iii) a ligand having the amino acid sequence of SEQ ID NO:6;
- iv) a ligand having the amino acid sequence of SEQ ID NO:8; and
- v) a ligand having the amino acid sequence of amino acid residues 32-101 of SEQ ID NO:8.

116-121. (Canceled)